



Next Meeting

Details of next meeting emailed to members
Details will be advertised on club website

Latest meeting details found on club website at
<http://nevarc.org.au/>



Mick VK3CH has relocated QTH recently
In his natural habitat in the sun, with home brew beer, sausages and radio...

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VK3CH New Shack

After 20 years at my old QTH, it was time to move house, a task I am sure most of you dread.

With most hams, relocating your shack and antennas can be either a hassle, or a real opportunity to revamp everything.

Lessons learnt on what worked well and what did not, all helps in the future planning, depending on how much room your new site offers you of course.

For me the actual shack room size was about the same, just a different shape, I have become used to getting peak use of a compact area of a house. This time all coax and other control cables were to be run under the floor of the house instead of over the rooftop.

While I did not set a time frame, the whole job took about four months in stages.

This included sorting and storing all the extra stuff, also referred to as junk!

I have gone from a peak of 12 radios at one time ten years ago, to a reduced 3 radios in the shack with a possible 4th in future.

This is a big change over the years but I have realised that three main radios are all I use often.

The old radio in the backyard was also returned to service on the outside deck.

Compared to the last QTH, there is much more land available to run a HF dipole within the confines of the quarter acre block.

Not many quarter acre blocks left in Doncaster, as all the developers want to buy them and build little units and sell them quickly.



First antenna was TV



Later the Amateur Television TX & RX beams pointing at new VK3RTV

Later four X7000 VHF/UHF Verticals were installed, all of these have masts placed from stakes in the ground and used the roof edge of the outside decks for top support, the first time I have ever put up antennas, from ground level, without a ladder in sight.

X7000 added to the easterly TX mast



Another X7000 mounted west



Two more X7000 mounted north and south



The backyard would not be complete without the BBQ collection.
A lot more space to work in, but no cover from the weather.



But one BBQ is up on the deck, which has both roofing and a side windbreak wall, so cooking can be done in wet colder weather. Opposite to that has the IC-2820H 2 meter and 70 cm dual coverage VHF/UHF transceiver to chat on as the food cooks. The IC-2820H will also be used for ATV liaison when sending pictures from outside on live ATV. When not in use the lunchbox enclosure has the cover closed to keep rain water, dust and spiders at bay.



Doncaster Shoppingtown is only 1.5 km from the house, so extreme pager QRM was expected, but to my amazement I get none at all.

That's right, NONE on ANY radio on 2 meters, even near the high end edge of the band, even with RF pre-amplification enabled. At Northcote I had lots of QRM, here at Doncaster on VHF/UHF the bands are noise free, no nasties at all.

Northcote had trams and electrolysis switching units and high tension powerlines, at Doncaster none of that. My 40 meter HF noise floor has dropped from a Northcote noise floor of typically S9 during the day, down to occasionally S7 at night, to a Doncaster 40 meter HF noise floor of S5 anytime.

Typical HF noise on the bands is S1 on 160 meters, S3 on 80 meters, S5 on 40 meters, S6 on 30 meters, S3 on 20 meters, S1 on 17 meters, S5 on 15 meters, S5 on 12 meters and S2 on 10 meters.

On the higher bands typical noise floor is S1 using SSB on 6 meters and less than S1 using SSB on either 2 meters or 70cm or 23cm.

Using FM mode there is no noise concerns at all on any band.

The two main jobs after planning and installing the radios in the shack were deciding the coax runs for the shortest distance. The only constraint was the siting of the ATV beams was pointing them at the new VK3RTV site at Surrey Hills. This is just 4.7 km away from the new QTH, which really helps getting into VK3RTV. The beams are sighted to go right between two very tall trees in the path of the ATV repeater at Surrey Hills. As I am so close to Surrey Hills, there was no real point in having the beams high up on a tall mast, with all the extra work of that.

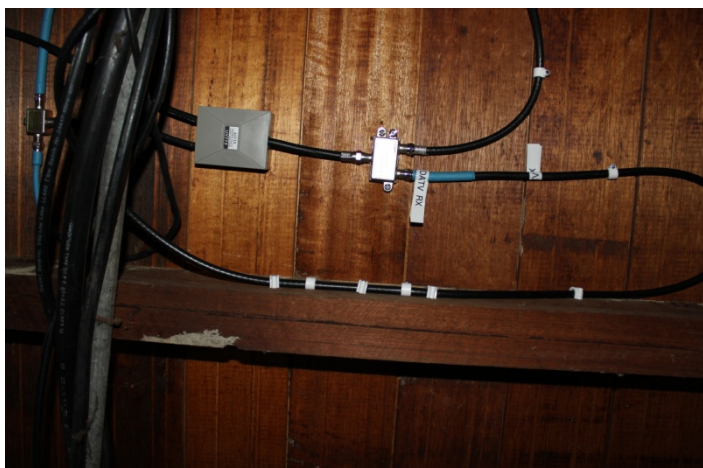


ATV beam mast view to ground, just 6 meters in height



View out of the kitchen window looking east

With the relocation of the ATV Repeater and only a few weeks to test the reception, it was a bit of a hurry to get the ATV beams installed and sighted in time – nothing like a deadline to get things done. I will forget where or why I ran what cables where and what they do, so right from the start, documenting and labelling everything was done and recorded. After over 30 years of ham radio I have finally learned from unnecessary tracing cable runs to try and remember what connector goes to what antenna. Even TV & ATV coax receive runs were not exempt.



Commercial TV and ATV cables and combiners under house



Video cable feeds from backyard for ATV transmitter

Underneath the rear yard deck is lots of space for cables; power, video, baluns and the outside IC-2820H radio body.



DC and mains power



Ladder line to coax HF balun



IC-2820H radio body in lunchbox

Underneath the house is room to store all the 'junk', masts and spare portable antennae.

The house is on a sloping block so one side has lots of storage where you can walk about, but the other end is a crawl, which is what I endured running coax cables from the floor of the shack to outside to all the antennas, but a lot safer than roaming on the roof.



The stuff I use the most is the most accessible, with the rest right under the house. That's the stuff that should get sold at Hamfests.

View from the backyard deck, it is very quiet and peaceful, just the chirping birds in the trees , just perfect for a QSO in the sunshine.



A test of VHF & UHF repeaters had most at same or better signal strength, but some distant ones were down, due to the new paths and dirt in between me and them, to be expected of course, but nothing of concern.

The lack of pager interference makes all the 2 meter repeaters usable across Melbourne.

Given that all the antennas are just 6 meters above ground height the reception is quite good, higher would have been better, but as I am already on higher ground, I was not too fussed about it.

QTH ground height is 79 meters above sea level, compared to 36 meters above sea level at Northcote.

Having a shack inside a house with all the comforts is what I am used to, I appreciate not having to run the hobby from a shed.

The room is just 3 meters by 2.7 meters but everything fits in neatly, but I did have to measure and decide it all first. All coax, Ethernet cables and DC power to backyard all go to the floor and run under the house, this saved quite a few meters in each cable run, all coax runs use 9913 low loss shielded coax.

The HF Inverted "V" is 9913 coax from the shack to the backyard deck, then 450Ω ladder line to the feed of the inverted 'V'. The width of the block was conveniently wide enough to have a 40 meter inverted 'V' just fit, the rest of the bands matched by ATU.

The library with other ATV gear stored on top of the shelves at rear of the radio table



Beside the radio table



The main table of radio and amateur television transmitter gear and monitors



Transceivers are the IC-9100 on the table top, which is my preferred radio, with the ID-5100A and IC-910H underneath. The switch mode 13.8v DC supply can provide a current of 60 amps, so no problem running everything.



The VK3CH Amateur Radio DVB-S Television Transmitter



My father’s old Morse key wired to the IC-9100

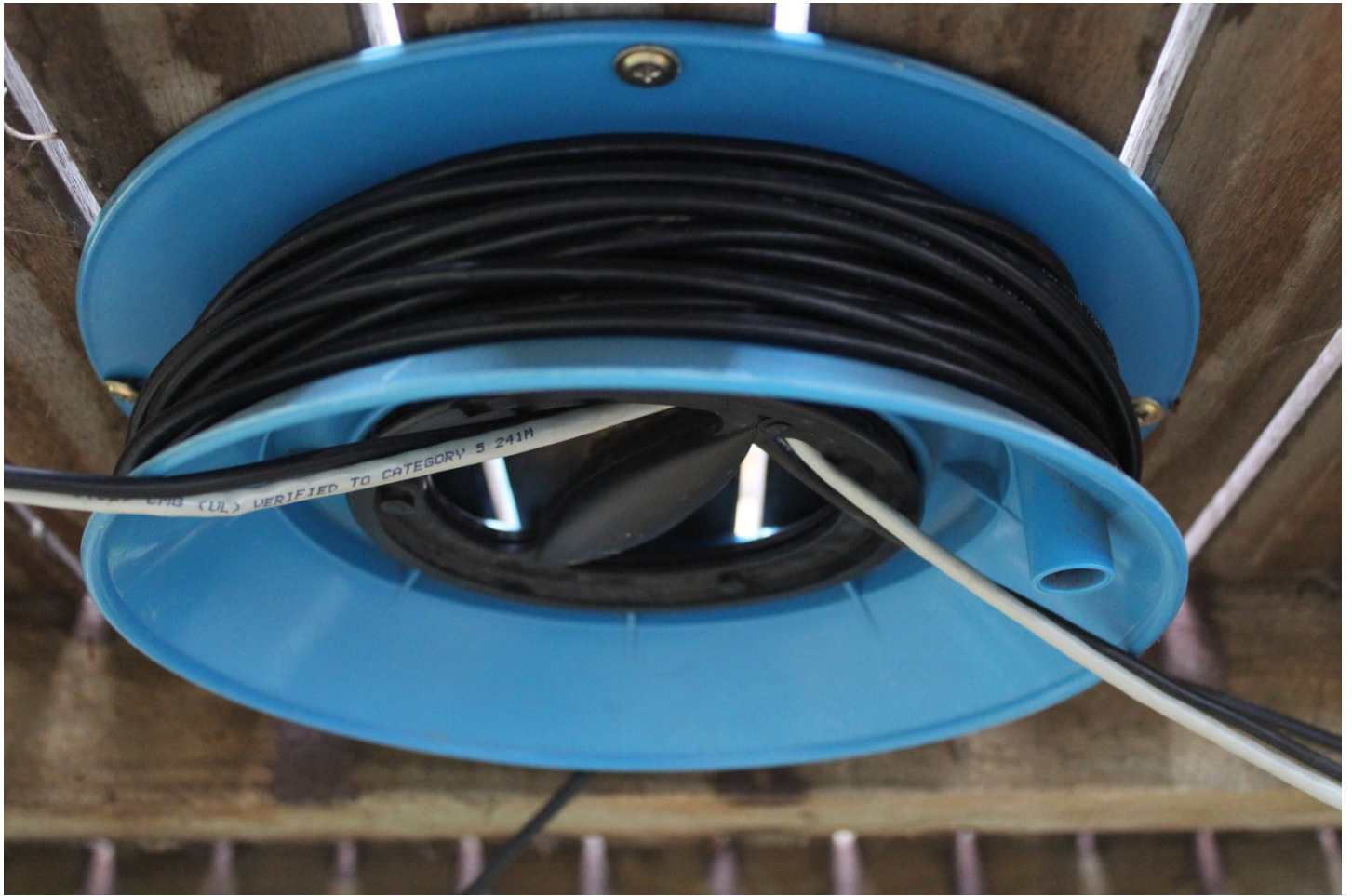


The software collection from DOS days to present

The Coaxial Cable Run chart, so much simpler now...

NORTH X7000	-----	Radio Room	-----	IC-9100
EAST X7000	-----	Rear Decking	-----	IC-2820H
SOUTH X7000	-----	Radio Room	-----	IC-910H
WEST X7000	-----	Radio Room	-----	IC-5100A
SOUTH-WEST X7000	-----	Rear Decking	-----	FTM-400DR
23cm 45 elements loop Yagi ATV TX	-----	Radio Room	-----	DVB-S ATV TX
70cm 10 elements Yagi ATV RX	-----	Radio Room	-----	TV 446.500 RX

First tests on HF with the inverted 'V' gave mixed results on bands other than 40 meters. This ranged from difficult matching or RF finding its way back to the shack and appearing in my computer speakers. This was sorted very cheaply and simply by an "ugly balun" of coax wound on a fishing line wind up reel. The reel is under the rear deck just near the 4:1 matching balun. About 20 meters of coax is wound on the reel – no more RF problems and instant VSWR matching by the radios ATU on all bands.



The inverted 'V' has feed able to be lowered by a pulley, so each year it can be lowered and the connections filed cleaned for a good contact, as the rain eventually corrodes things, this keeps it as efficient as it can be. The bamboo pole is light and quite tough. The width of the house acre block is an exact electrical length for 40 meters, not many places in inner suburban Melbourne have that.



The view of the house from the street, the antennas are not really visible until you are right in front of the house.

An improved HF, VHF, UHF & SHF Noise Floor and NO Pager QRM on 2 Meters.

Transmitting gear down from 12 radios, to just 5, including the ATV transmitter.

Antennas down from a peak of 16, at one stage, to just 4 Verticals and 2 Beams.

The four X7000 Verticals from the roadside, the ATV beams not visible, which are at the rear of the house.
HF Inverted "V" also at the rear of the house.



Not a vegetable or salad in sight, what a beautiful thing...
All ready to tease the Melbourne ATV community with some BBQ food next ATV QSO Party...

Testing to the new site of VK3RTV at Surrey Hills located 4.7 km away from the new QTH had the following results;

SR-Systems VK3RTV Power Levels

Level	Current	Power (Watts)	VK3RTV
0	1.9	0	No
1	2.1	0.15	No
2	2.1	0.4	No
3	2.2	0.7	No
4	2.4	1.2	Just
5	2.5	1.9	Yes
6	2.7	2	Yes
7	2.9	3	Yes
8	3.1	3.75	Yes
9	3.3	5.25	Yes
10	3.5	5.5	Yes
11	3.7	6.5	Yes
12	3.9	8	Yes
13	4.1	9.5	Yes
14	4.3	11	Yes
15	4.5	12.2	Yes

A low VSWR of 1:1.1 on 23cm ATV TX



These tests were done in good weather so how it goes on a rainy day is yet to be seen.

The 23cm loop yagi beam had a VSWR of 1: 1.1 across the entire 23cm band, so either input of 1255 MHz or 1246 MHz is good.

While I have an RF pre-amp for 446.500 MHz it is not required, VK3RTV is received perfectly, even after splitting coax runs for both the house TV in the lounge and shack TV and a socket for watching TV in the backyard, so as to be able to monitor ATV while transmitting ATV live outside.

Google Earth is very useful in plotting distance and elevation paths.

The path from the QTH to VK3RTV is here.

But these are GROUND levels.

At VK3RTV 45 meters needs to be added for the tower height.

At my QTH 6 meters need to be added for the 23cm loop yagi beam height above ground.

So from my QTH to the Surrey Hills tower site the path is virtually clear apart from the two tall trees in the backyard.



All VK3RTV equipment from Surrey Hills was removed as the whole building is to be re-furbished, to be finished about early 2019.

There will be no DATV QSO Party this 2018 year, but Peter Cossins expects 2019 to be bigger and better using new techniques.

So my ATV setup will remain dormant for a while, but at least I know it will work at the throw of a switch.

As I tuned all TV's to Melbourne TV translator, I had to re-tune all the TV's to Mount Dandenong and VK3RTV as well.

After everything was done, after so many years, re-programming all the memory channels into all four transceivers, for all the repeater changes over the years, as many have either had CTCSS tones added or altered, moved frequency or new ones in service.

This task took days, as I never purchased the programming software for the radios at the time – silly oversight I think now. These memory allocations were then printed out and laminated with a copy to use and a copy to file away.

With the move to a new QTH a very important job is RF exposure testing and documentation. As all my SSB & FM transceivers transmit at a maximum of 100 watts or less on VHF & UHF and I am not using beams on these, then ACMA Level 2 Compliance is NOT required.

With ATV transmission with a beam on 23cm, you can soon have EMR levels that increase dramatically. The screenshot is of the VK3UM Site Radiation Calculator.

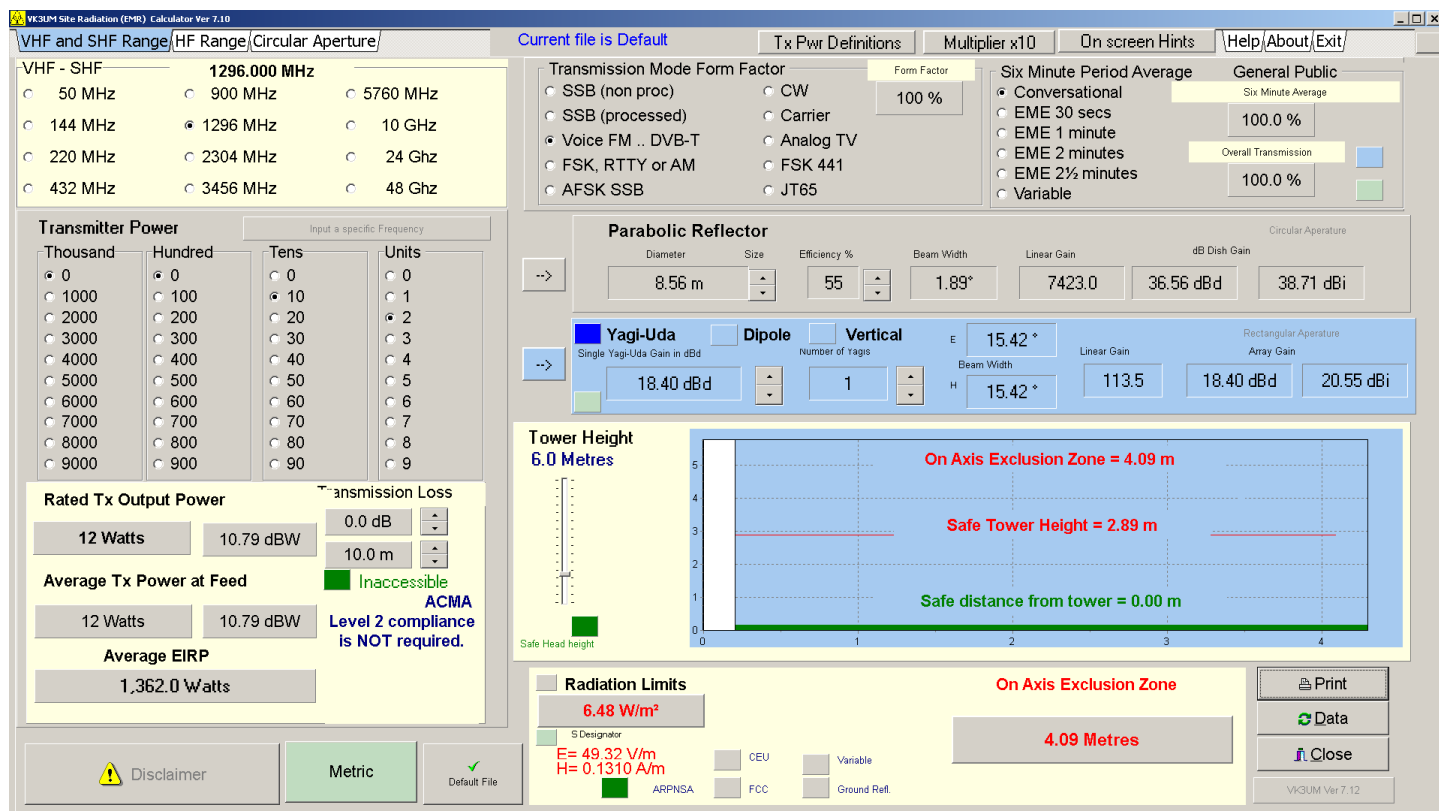
Selected is a frequency of 1296 MHz which is slightly above the ATV input frequency of 1255 MHz. The transmission mode form factor selected is DVB-T. Transmitter Power selected is 12 watts, the highest my ATV Transmitter can provide. Antenna selection is a Yagi of 18.4 dB d, which is the gain of my loop yagi beam. Antenna height (tower height) from ground set as 6 meters.

I have NOT included the power LOSS of 30 meters run of 9913 coax from transmitter to antenna, so my figures are conservative. Belden give a loss at 1000 MHz of 4.4 dB/100ft, which 30.8 meters length.

This information from https://catalog.belden.com/techdata/EN/9913_techdata.pdf

The program says that ACMA Level 2 Compliance is NOT required, as average power (EIRP) is under 3200 watts. The EIRP in this case is calculated at 1362 watts, not including the coax losses.

Only with an input power level of 29 watts, did it then say EMR Level 2 was required, as the radiated power (EIRP) exceeded 3200 watts.



When I entered the coax loss factor of 30 meters length at a loss of 4.4 dB total, the maximum power increased to 76 watts before EMR Level 2 was required, as the radiated power (EIRP) exceeded 3200 watts. Each “N” connector would have minor losses also.

Running 12.2 watts maximum, my ATV station is under and within legal compliance with EMR levels required by the ACMA.

Another good thing living closer to Mount Dandenong TV towers is the DAB+ reception is also improved with the many new DAB+ broadcast stations to listen to.

Even with a few splitters in both the commercial TV coax and DATV TV coax, all Melbourne TV stations and ATV are received perfectly with no need for RF pre amplification.

I really love how the new QTH is completely pager noise free.

Now let’s see if the house remains at the few antennas at present, or if they decide to “grow” in number, over time.

I have my eyes on the tall trees a few houses either side of me for a long wire, some negotiations with the neighbours over some beers and a BBQ could be a future project.

~Mick VK3CH

NEVARC Nets

40M Net

Monday, Wednesday and Fridays
10am Local time (East coast)

7.095 MHz LSB

Hosted by Ron VK3AHR
Using club call VK3ANE

80M Net

Wednesday 20:30 Local time

3.622 MHz LSB

Hosted by Ron VK3AHR
Using the club call VK3ANE

2M Nets

Monday at 2000 local time on
VK3RWO repeater
146.975 MHz

Death pledges, Viking attacks and daughter auctions: the origin of real estate terms

What do we know about the everyday words we throw about when we're discussing buying and leasing properties?

Some of the curious stories behind five of our commonly used real estate terms:

Landlord

This archaic term can be traced back to the Middle Ages and is – unsurprisingly – the conjunction of “land” and “lord”.

Medieval Europe consisted mostly of tiny farming villages and a few small cities connected by rough, often dangerous roads. Villages were vulnerable to attack from robbers, and from Vikings, who could attack, plunder, and murder villagers without warning. Kings owned all the land, but landlords were appointed as protectors of individual villages, and of the surrounding farmland and forest. The landlord's job was to protect the villagers, while the villagers – or serfs – farmed the land. Each villager “paid” his landlord for this protection with some of his crop, and this “rent” became part of the landlord's income.

Apartment

The word “apartment” was first documented in the 16th century, and is from the French word *appartement*, and the Italian word, *appartamento*, from *appartare* – “to separate”.

All these words come from the Latin words *ad* and *pars* – “to part”. However, apartments have been around since the ancient Roman period – from around 753 BC – when they were originally called *cenacula*. Each *cenacula* typically had three to seven rooms, and the apartment buildings themselves, up to eight stories in height, were called *insulae*, which translates to “island”.

Auction

The word auction is derived from the Latin word *augeō*, meaning “I increase”. While auctions have been around since 500 BC, early ones were not, like today, for partially renovated terraces in Fitzroy. Nope – they were for women. In ancient Babylon, annual auctions were held for families to sell off their unmarried daughters. In fact, it was illegal to not auction off your daughter!

Later, the Romans auctioned off the slaves they had captured in war. And, while today it makes news when whole apartment blocks are auctioned off, in 193 AD the entire Roman empire – approximately 5.7 million square kilometres – was auctioned off by the Praetorian Guard after a coup. On March 28, 193 AD, a senator, Didius Julianus, paid 6250 drachmas per soldier and became the owner of the empire – until he was executed less than three months later.

Real Estate

While the history of real estate would fill several articles, the term was first documented in the 1600s.

So, “estate” comes from the Latin word “*stare*” (to stand) and “*status*” (state, condition) – yes, that's where status comes from: owning land, which evolved into the Old French *estat* and Anglo-French *astat*.

But why “real” estate? (What is “fake” estate?)

Etymologists believe that “real” either comes from the Latin root *res*, meaning “things”, or from *rex*, meaning “royal”, as, historically all land was owned by kings.

It is generally agreed that the usage of the “real” derives from early law, where there was a distinction between “personal” (relating to people, or actions) and “real” – meaning tangible things. Later, “real” evolved to pertaining to immovable things (like land or houses) not moveable stuff (like furniture, money, tools).

Mortgage

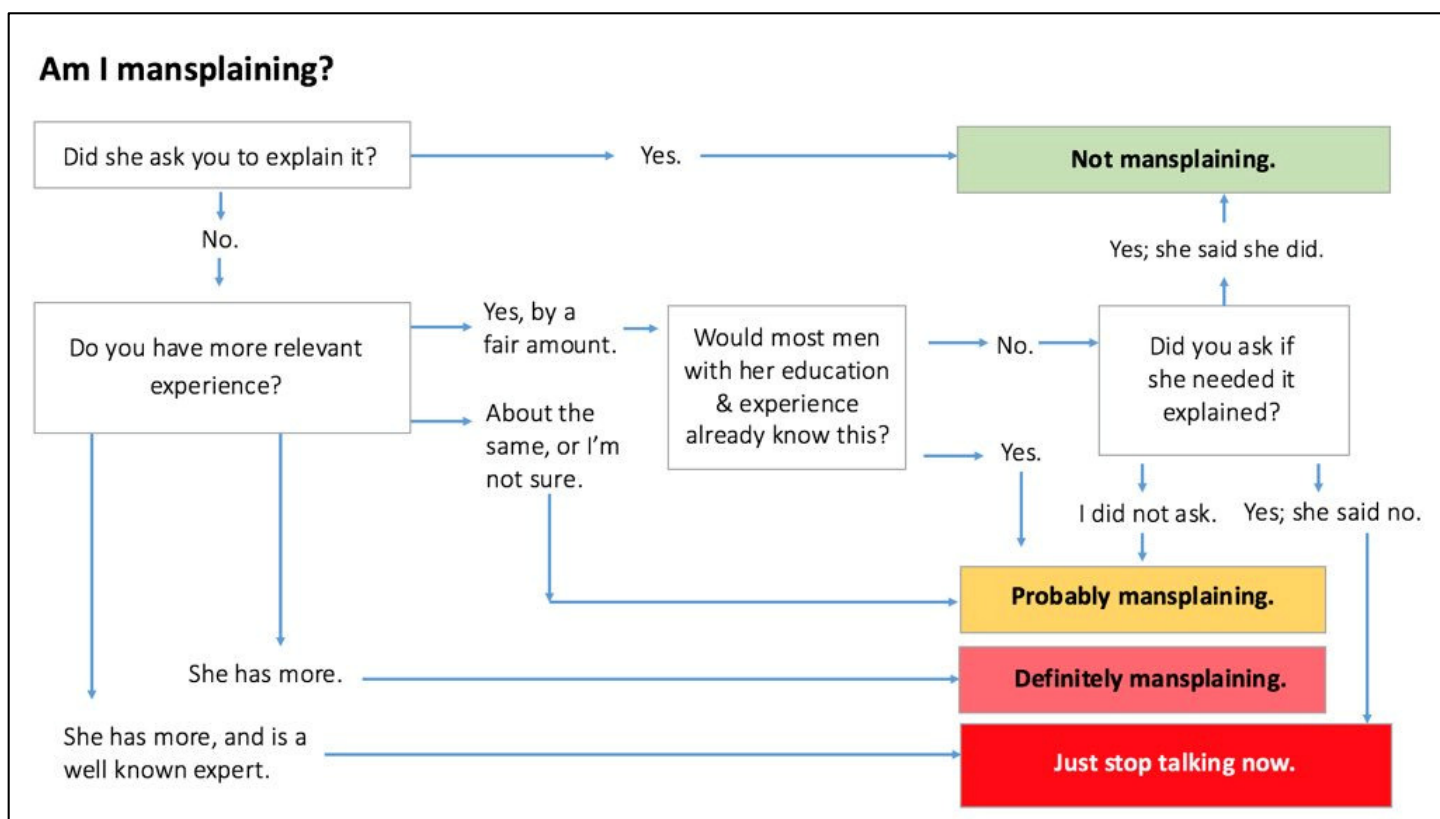
Many people complain that their mortgages are killing them and the word mortgage is associated with death. Mort is from the Latin, meaning “dead” or “death”, while gage translates to “pledge” or to “promise”. So, mortgage literally means death pledge.

Etymology buffs differ in what the term originally signified. According to DollarSense journal, the term is from “the days of the landed gentry when the eldest son – strapped for cash that he wouldn't get until his inheritance came through – would borrow money and sign a pledge to repay it after his father died.”

It is also believed that death pledges were so named because the gage died when the loan was fully paid off, and that the property was dead (to the mortgage holder) if the loan wasn't repaid.

Whatever interpretation you subscribe to, you can spice up discussions on mortgages by using “death pledge” instead. It's the correct historical term, after all.

~Internet



Possibly Australia's most confusing parking sign, in Sydney
(Not a joke – this is really true)



Southern Peninsula Amateur Radio Club Radiofest

Sunday 18th November

Eastbourne Primary School Auditorium
Allambi Avenue, Rosebud Vic.

(Mel. 169 K5, follow signs from Boneo Rd.)

Located on Victoria's beautiful Mornington Peninsula

Talk in on VK3RSP (146.675) from 8 AM

FEATURING:

Technical forums -
Traders - Pre-Loved Gear Sales,
Components, Antennae
Great Door Prizes - Ham Radio Vehicles
Demonstrations - Talk-in from 8:00 am
Emergency Services Comms Display
Free Tables available for Club Promotions

RadioFest is Fully Catered and Undercover

Food Sales, Show & Tell,
Pre-Entry Tickets from 8:00 am

Main Doors open 9:30 am

Entry \$6.00 - Children under 12 admitted free

GLOBAL WARMING WILL MAKE BEER MUCH MORE EXPENSIVE



IN A study designed to strike fear, international researchers have outlined a surprising reason why we will soon pay more for a beer.

IF YOU weren't already worried about the effects of global warming, this should definitely do it.

Scientists have looked at the impact climate change will have on barley — a vital crop for beer making — and come up with a grim prediction: a global beer shortage.

While Australia hit “peak beer” in 1974-75, according to the Australian Bureau of Statistics, we still rank about 23rd in the world when it comes to beer consumption per capita.

So this is a very concerning forecast indeed.

The study was carried out by a small team of researchers in the US, the UK and China and published this week in the journal *Nature Plants*.

Scientists behind the study suggest that by the end of the century, increased drought and heat could hurt barley crops enough to cause a genuine shortage for beer makers, driving up the cost of beer.

“Beer is the most popular alcoholic beverage in the world by volume consumed, and yields of its main ingredient, barley, decline sharply in periods of extreme drought and heat,” researchers wrote.

“Although the frequency and severity of drought and heat extremes increase substantially in range of future climate scenarios by five Earth System Models, the vulnerability of beer supply to such extremes has never been assessed.”

So they set out to look at such a scenario under a range of different climate models.

Worldwide barley is used for all sorts of purposes, mostly feeding livestock. Less than 20 per cent of the world's barley is made into beer. But in the United States, Brazil and China, at least two-thirds of the barley goes into six-packs, drafts, kegs, cans and bottles.

In Australia, barley has been losing ground to rival crops due, in part, to climate conditions and slowing overseas demand.

Barley is also one of the most heat-sensitive crops, making it particularly vulnerable to global warming and the extreme events brought on by climate change.

“We find that these extreme events may cause substantial decreases in barley yields worldwide,” researchers said.

In their estimation, losses of barley yield could easily be as much as 17 per cent. That means beer prices on average would double, even adjusting for inflation. In countries like Ireland, where cost of a brew is already high, prices could triple.

Study co-author Steve Davis of the University of California, Irvine, said the beer research was partly done to drive home the not-that-palatable message that climate change is messing with all sorts of aspects of our daily lives.

They knew, people like me would write about it and people like you would read about it.

The findings come a week after a dire United Nations report described consequences of dangerous levels of climate change including worsening food and water shortages, heatwaves, sea level rise, and disease.

Australian Prime Minister Scott Morrison's early response to the report was to promise that Australia would be not be spending money on climate change conferences and “all that nonsense”.

~Internet

President, VK2VU, Gary
Vice President, Vacant
Secretary, VK2FKLR, Kathleen
Treasurer, Amy



NEVARC CLUB PROFILE

History

The North East Victoria Amateur Radio Club (NEVARC) formed in 2014.
As of the 7th August 2014, Incorporated, Registered Incorporation number A0061589C.
NEVARC is an affiliated club of the Wireless Institute of Australia.

Meetings

Meetings details are on the club website, check for latest scheduled details.
Meetings held at the Belviour Guides Hall, Silva Drive West Wodonga.

VK3ANE NETS

HF

7.095 MHz Monday, Wednesday, Friday - 10am Local time
3.622 MHz Wednesday - 8.30pm Local time

VHF

VK3RWO Repeater 146.975 MHz – Monday - 8pm Local time
All nets are hosted by Ron Hanel VK3AHR using the club callsign VK3ANE

Benefits

To provide the opportunity for Amateur Radio Operators and Short Wave Listeners to enhance their hobby through interaction with other Amateur Radio Operators and Short Wave Listeners. Free technology and related presentations, sponsored construction activities, discounted (and sometimes free) equipment, network of likeminded radio and electronics enthusiasts. Excellent club facilities and environment, ample car parking.

Website: www.nevarc.org.au

Postal: **NEVARC Secretary**
PO Box 69
Wahgunyah Vic 3683

All editors' comments and other opinions in submitted articles may not always represent the opinions of the committee or the members of NEVARC, but published in spirit, to promote interest and active discussion on club activities and the promotion of Amateur Radio. Contributions to NEVARC News are always welcome from members.

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Please include a stamped self-addressed envelope if you require your submission notes returned.

Email attachments not to exceed 5 Mb in file size. If you have more than 5 Mb, then send it split, in several emails to us.

Attachments of (or thought to be) executable code or virulently affected emails will not be opened.

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While we strive to be accurate, no responsibility taken for errors, omissions, or other perceived deficiencies, in respect of information contained in technical or other articles.

Any dates, times and locations given for upcoming events please check with a reliable source closer to the event.

This is particularly true for pre-planned outdoor activities affected by adverse weather etc.

The club website [http://nevarc.org.au/](http://nevarc.org.au) has current information on planned events and scheduled meeting dates.

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